



PIER Energy-Related Environmental Research

Environmental Impacts of Energy Generation, Distribution and Use

Bird Electrocution Mitigation Website and Product Encyclopedia

Contract #: 500-01-032, subcontract S0146100

Subcontractor: EDM International, Inc.

Subcontract Amount: \$85,113

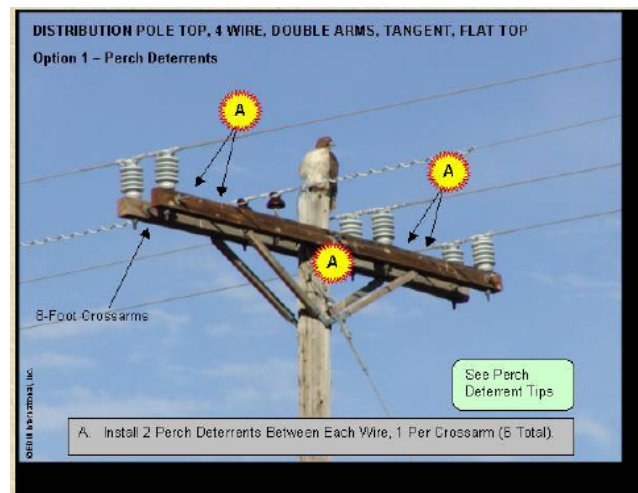
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The Issue

Negative interactions between birds and power structures seriously affect both the cost of electrical service and mortality of avian species, especially for large birds such as raptors. In the United States, birds cause more power outages and quality disturbances than any other group of animals.¹ A recent study concludes that the “base case” estimate of the cost of wildlife-caused power outages on the California economy is \$34 million each year.² One research study reported that in a sample of 4,300 eagle deaths investigated by the U.S. Department of the Interior, electrocution was the second most frequent cause of death of golden eagles and the third most frequent for bald eagles.³



Electric utility companies retrofit power structures in various ways to reduce bird electrocution risk. However, methods for reducing this risk continue to improve, and utility personnel are not always familiar with the latest developments or the most effective methods and products for alleviating bird electrocution. One step toward reducing avian fatalities and electricity disruption is to ensure that the most recent information regarding retrofitting products and procedures is readily available to utility engineers and linemen. At present, there is no comprehensive compilation of information specifically dealing with California construction code General Order

¹ Southern Engineering Company. 1996. In: *Bird Electrocution Mitigation Web Site and Product Encyclopedia*. Proposal for Santa Cruz Predatory Bird Research Group. January. p. 1.

² Energy and Environmental Economics, Inc. 2005. *The Cost of Wildlife-Caused Power Outages to California's Economy*. California Energy Commission, PIER Energy-Related Environmental Research. CEC-500-2005-030.

³ LaRoe et al. 1995. *Our Living Resources: A Report to the Nation on the Distribution, Abundance, and Health of U.S. Plants, Animals, and Ecosystems*. Washington, D.C.: U.S. Dept. of the Interior, National Biological Service. Cited In: *Bird Electrocution Mitigation Website and Product Encyclopedia*. Proposal for Santa Cruz Predatory Bird Research Group. January. p. 1.

No. 95—*Rules for Overhead Electric Line Construction*⁴ compliance, nor is there a central location that presents and compares available retrofitting products.

Project Description

The PIER Environmental Area funded a project by EDM International, Inc. to develop an interactive website that concerned stakeholders can use to address bird electrocution mitigation. It features an up-to-date encyclopedia of available products for mitigating bird electrocution. The website presents typical California distribution overhead power line configurations, associates avian fatalities with those configurations, and identifies retrofitting solutions that have been recognized as effective. These solutions include perch management, isolation, and insulation technologies that are consistent with California regulations.

This interactive, menu-driven Web database enables utility engineers and linemen to determine quickly how to best retrofit structures to California standards. Users may enter information describing their problem and search for the appropriate solution. Images of merchandise accompany information on the pros and cons of product use, product specifications, vendor claims, installation techniques, problems of misapplications, vendor links, and contact information. The website also features a secure, member-only forum section for utility testimonials on product satisfaction.

The database will be updated regularly to include new products as they become available. Funding to date will cover a year of maintenance and updates, and EDM is confident that further funding from other sources will become available for continued site maintenance.

PIER Program Objectives and Anticipated Benefits for California

This project offers numerous benefits and meets the following PIER program objectives:

- **Providing environmentally sound and safe electricity.** This project will help to reduce raptor fatalities from electrocution by reducing the use of inappropriate technology and poor quality products, and incorrect installation of retrofitting devices.
- **Providing reliable electricity.** The Bird Electrocution Mitigation Website and Product Encyclopedia will ensure that utilities are using the most up-to-date and effective products available to protect power structures from avian-caused outages, thus enabling them to provide the most reliable service possible.
- **Providing affordable energy services.** By enabling utilities to compare available products and read firsthand accounts of their effectiveness, those companies will be able to focus resources on proven methods and products, thereby saving money while reducing avian-caused outage costs and retrofitting costs.

⁴ California Public Utilities Commission. 1998. *General Order No. 95—Rules for Overhead Electric Line Construction*. State of California. www.cpuc.ca.gov/PUBLISHED/Graphics/13352.PDF.

Results

The website is now functioning and will be monitored for use and suggestions for one year. It may be accessed at <http://bems.edmlink.com>. The website was first presented in a workshop at the Raptor Research Foundation's annual North American meeting in November 2004 and will be presented at a workshop at the Western Section of Wildlife Society Annual Meeting in early February 2006.



Final Report

The final report for this project will be completed in 2006, after the website has been monitored for one year.

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